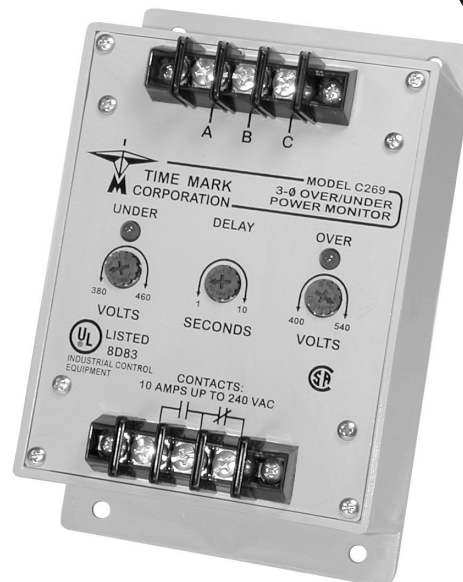


## MODEL 269

# Over & Under 3-Phase Monitor



- Monitors for High Voltage, Low Voltage, Phase Loss & Phase Reversal
- 4 Voltage Ranges
- Automatic Reset
- 5 Year Unconditional Warranty



### DESCRIPTION

The Model 269 Over & Under 3-Phase Monitor continuously monitors 3-phase lines for high voltage, low voltage, phase loss or phase reversal. This device features a solid-state voltage and phase angle sensing circuit, which drives a SPDT output relay.

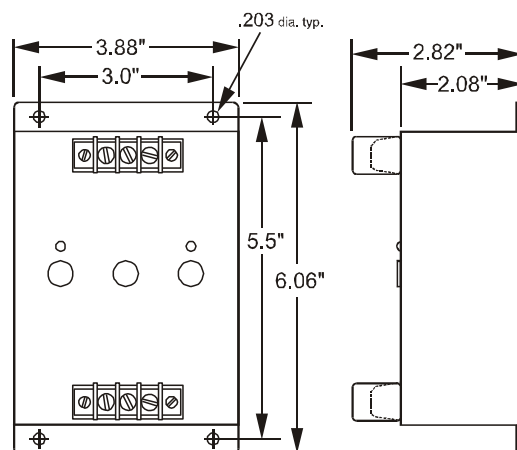
The Model 269 is independent of the system load, and may be used on any horsepower motor. When phase sequence is correct, and the voltage remains between the upper and lower trip points, the output relay remains energized. When a fault condition is sensed, the output relay drops out.

The Model 269 does not require a neutral connection, and can be used on Wye or Delta systems. Each of the four voltage versions can be adjusted over a wide range. An adjustable trip delay (1-10 seconds) prevents nuisance tripping. OVER and UNDER voltage failure indicators aid in calibration and system troubleshooting.

### SPECIFICATIONS

| Model                                  | A269                                   | B269  | C269                     | EX269                    |
|--|--|---|--------------------------|--------------------------|
| Nominal AC Voltage<br>(phase to phase) | 120VAC                                 | 208/240VAC  | 480VAC                   | 380VAC                   |
| Adj Range - Upper<br>- Lower           | 110 - 145V<br>80 - 115V                | 210 - 280V<br>170 - 240V                                  | 400 - 540V<br>380 - 460V | 350 - 450V<br>300 - 400V |
| Frequency                              | 60Hz                                   |   |                          | 50Hz                     |
| Power Consumption                      | 1.5W                                   | 3W  | 6W                       | 6W                       |
| Transient Protection                   | 2500VRMS for 10ms                      |   |                          |                          |
| Repeat Accuracy                        | ± 0.1% of set point (fixed conditions) |   |                          |                          |
| Response Time                          | Adjustable from 1-10 seconds ±5%       |   |                          |                          |
| Reset Time                             | 0.25 seconds                           |   |                          |                          |
| Reset Type                             | Automatic                              |   |                          |                          |
| Dead Band                              | Approximately 2%                       |   |                          |                          |
| Output Contacts                        | SPDT 10A at 240VAC resistive           |   |                          |                          |
| Expected Relay Life                    | Mech:<br>Elec:                         | 10 million operations<br>100,000 operations at rated load |                          |                          |
| Operating Temp                         | - 20° to +130° F                       |   |                          |                          |
| Humidity Tolerance                     | 0-97% w/o condensation                 |   |                          |                          |
| Enclosure Material                     | ABS Plastic                            |   |                          |                          |
| Mounting                               | Surface                                |   |                          |                          |
| Weight                                 | 9 oz.                                  |   |                          |                          |
| Agency Approval                        | UL Listed & CSA Certified              |   |                          |                          |

### DIMENSIONS



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Sales - (800) 862-2875  
Fax: (918) 437-7584

E-mail: sales@time-mark.com  
Internet: http://www.time-mark.com



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CORPORATION

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Tulsa, Oklahoma 74116

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# MODEL 269 Over & Under 3-Phase Monitor

READ ALL INSTRUCTIONS BEFORE INSTALLING, OPERATING OR SERVICING THIS DEVICE.  
KEEP THIS DATA SHEET FOR FUTURE REFERENCE.

## GENERAL SAFETY

POTENTIALLY HAZARDOUS VOLTAGES ARE PRESENT AT THE TERMINALS OF THE MODEL 269 .  
ALL ELECTRICAL POWER SHOULD BE REMOVED WHEN CONNECTING OR DISCONNECTING WIRING.  
THIS DEVICE SHOULD BE INSTALLED AND SERVICED BY QUALIFIED PERSONNEL.

## Installation Instructions

### WARNING

THE MODEL 269 IS NOT TO BE USED IN APPLICATIONS WHERE VOLTAGES TO BE MONITORED OR SWITCHED WILL EXCEED VOLTAGE SPECIFICATIONS FOR THE PARTICULAR UNIT. SEE 'ADJUST-MENT RANGE' IN THE TABLE ON THE REVERSE SIDE OF THIS DATA SHEET.

### INSTALLATION

Connect 3-phase wiring to the terminals marked **A, B** and **C**.

Connect the control wires to the terminals with the relay contact markings. The markings shown are in a *TRIPPED* condition.

Apply power. If the indicator lights are ON, and the contacts do not transfer when power is applied, check that all three phases are present and of the correct voltage. If all phases are correct, rotate the UNDER VOLTS adjustment fully counter-clockwise, and the OVER VOLTS adjustment fully clockwise.

If the contacts still do not transfer, remove power from the unit, and reverse two of the three input wires. Re-apply power. The contacts should then transfer (*LED-off*).

### ADJUSTMENT

Turn the DELAY SECONDS trip delay adjustment counter-clockwise.

Rotate the UNDER VOLTS adjustment slowly clockwise until the contacts transfer to a tripped condition (*LED-on*).

Slowly turn the UNDER VOLTS adjustment back counter-clockwise until the contacts reset to the normal condition (*LED-off*).

Rotate the OVER VOLTS adjustment counter-clockwise until the contacts trip (*LED-on*).

Slowly turn the OVER VOLTS adjustment back clockwise until the contacts reset to the normal condition (*LED-off*).

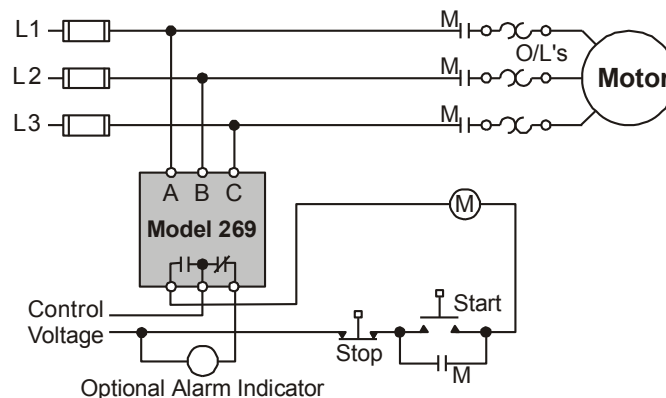
These settings will be correct for most installations.

Set the SECONDS delay adjustment to the desired amount of trip delay. This delay will help prevent nuisance tripping.

Should nuisance tripping still occur, turn the OVER VOLTS, and UNDER VOLTS adjustments slightly farther.

**NOTE:** In eliminating nuisance tripping, the voltage adjustments should be rotated in very small increments, until the true nuisance trips no longer occur.

### TYPICAL APPLICATION



### TROUBLESHOOTING

Should the Model 269 fail to operate properly, check that all three voltages are present, and are of the correct level. Check all fuses, and verify that all wiring connections are correct. Should problems persist, contact your local Time Mark Distributor, or the factory for further assistance.

### WARRANTY

This product is warranted to be free from defects in materials and workmanship, and is covered by our exclusive **5-year Unconditional Warranty**. Should this device fail to operate for any reason, we will repair it for five years from the date of manufacture. For complete warranty details, see the *Terms and Conditions of Sales* page in the front section of the Time Mark catalog or contact Time Mark at 1-800-862-2875.


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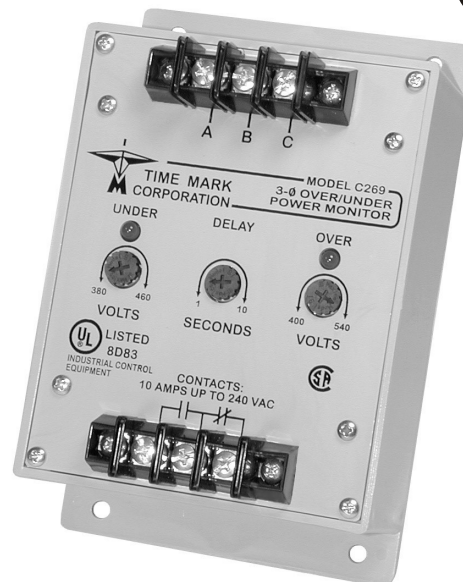
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## MODEL 269

# Over & Under 3-Phase Monitor



- Monitors for High Voltage, Low Voltage, Phase Loss & Phase Reversal
- 4 Voltage Ranges
- Automatic Reset
- 5 Year Unconditional Warranty



### DESCRIPTION

The Model 269 Over & Under 3-Phase Monitor continuously monitors 3-phase lines for high voltage, low voltage, phase loss or phase reversal. This device features a solid-state voltage and phase angle sensing circuit, which drives a SPDT output relay.

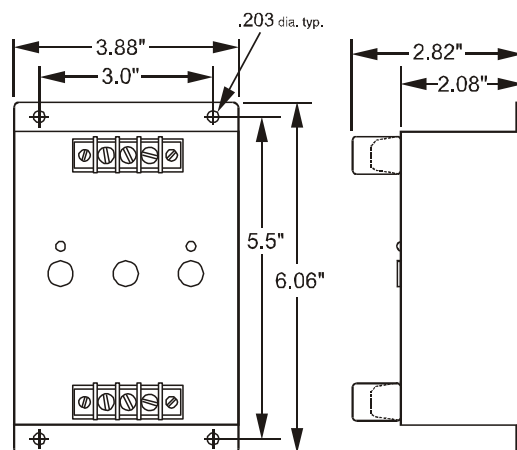
The Model 269 is independent of the system load, and may be used on any horsepower motor. When phase sequence is correct, and the voltage remains between the upper and lower trip points, the output relay remains energized. When a fault condition is sensed, the output relay drops out.

The Model 269 does not require a neutral connection, and can be used on Wye or Delta systems. Each of the four voltage versions can be adjusted over a wide range. An adjustable trip delay (1-10 seconds) prevents nuisance tripping. OVER and UNDER voltage failure indicators aid in calibration and system troubleshooting.

### SPECIFICATIONS

| Model                                  | A269                                   | B269  | C269                     | EX269                    |
|--|--|---|--------------------------|--------------------------|
| Nominal AC Voltage<br>(phase to phase) | 120VAC                                 | 208/240VAC  | 480VAC                   | 380VAC                   |
| Adj Range - Upper<br>- Lower           | 110 - 145V<br>80 - 115V                | 210 - 280V<br>170 - 240V                                  | 400 - 540V<br>380 - 460V | 350 - 450V<br>300 - 400V |
| Frequency                              | 60Hz                                   |   |                          | 50Hz                     |
| Power Consumption                      | 1.5W                                   | 3W  | 6W                       | 6W                       |
| Transient Protection                   | 2500VRMS for 10ms                      |   |                          |                          |
| Repeat Accuracy                        | ± 0.1% of set point (fixed conditions) |   |                          |                          |
| Response Time                          | Adjustable from 1-10 seconds ±5%       |   |                          |                          |
| Reset Time                             | 0.25 seconds                           |   |                          |                          |
| Reset Type                             | Automatic                              |   |                          |                          |
| Dead Band                              | Approximately 2%                       |   |                          |                          |
| Output Contacts                        | SPDT 10A at 240VAC resistive           |   |                          |                          |
| Expected Relay Life                    | Mech:<br>Elec:                         | 10 million operations<br>100,000 operations at rated load |                          |                          |
| Operating Temp                         | - 20° to +130° F                       |   |                          |                          |
| Humidity Tolerance                     | 0-97% w/o condensation                 |   |                          |                          |
| Enclosure Material                     | ABS Plastic                            |   |                          |                          |
| Mounting                               | Surface                                |   |                          |                          |
| Weight                                 | 9 oz.                                  |   |                          |                          |
| Agency Approval                        | UL Listed & CSA Certified              |   |                          |                          |

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# MODEL 269 Over & Under 3-Phase Monitor

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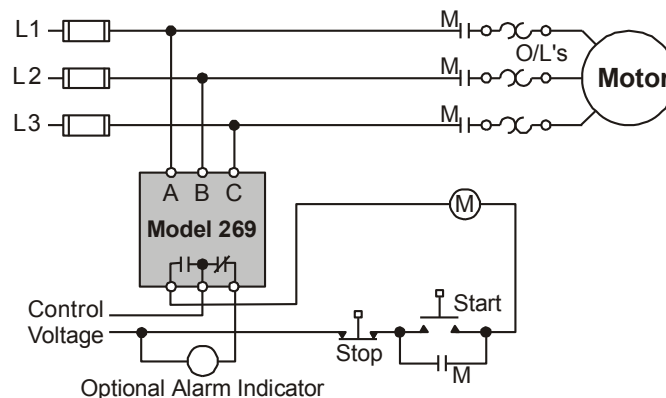
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### TYPICAL APPLICATION



### TROUBLESHOOTING

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